



# Safety Alert

From the International Association of Drilling Contractors

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ALERT 98-01

## High Pressure Lines and Hammer Unions

A drill crew was drilling ahead when a third party pressure sensor attached to the stand pipe stopped working. The sensor was made up to the standpipe with a size "602" hammer union rated at 6,000 psi working pressure. The crew removed the faulty sensor and replaced it. The hammer union on the new pressure sensor had a size "1502" wing nut rated to 15,000 psi. The "1502" female threads in the wing nut appeared completely made up to the "602" male threads coming off the standpipe.

The mud pumps were engaged and drilling operations resumed. As the mud pump pressure increased, no leaks were detected. Then, at approximately 2,000 psi, the pressure sensor and "1502" wing nut were blown off the standpipe. Fortunately, no one was struck by the projectile or the ensuing stream of drilling fluid. Approximately one barrel of oil-based mud was sprayed on the rig floor before the mud pumps were secured and the standpipe was isolated.

The mishap was considered an environmental incident and a *significant* near miss, which could have resulted in serious injury or death.

After investigating the incident, the operator offered the following suggestions:

1. Only unions with like threads should be made up. Although mismatched threads may appear made up (as they did in this case), only a portion of the threads are engaged and the union will fail under pressure.
2. Both halves of the union should have the same pressure rating.
3. All pressure lines should be inspected to ensure there are no mismatched unions.

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**The Corrective Actions stated in this alert are one company's attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.**

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